A RARE UROMYCES

By John L. Sheldon

Repeated efforts were made during the spring of 1906 to find the teleutospore stage of the rust producing *Aecidium houstoniatum* Schw. on *Houstonia coerulea* L. Although a number of species of rusts were found near the infected plants of *Houstonia*, their aecidial stages are known to occur on other hosts, with the exception of a *Uromyces* found on *Sisyrinchium graminoides* Bick. Whether this particular *Uromyces* on *Sisyrinchium* has an aecidial stage is probably not known, and whether it has one on *Houstonia* has not been definitely determined.

Observations made in the field showed that the *Uromyces* developed after the *Aecidium* had begun to mature and distribute its spores. After the uredospores on *Sisyrinchium* had developed, other plants of *Sisyrinchium* near by were infected both naturally and by placing pieces of the infected leaves over plants that had not previously shown the rust.

Five clumps of *Houstonia*, with aecidia on them, were transplanted beside plants of *Sisyrinchium* in localities where the *Uromyces* had not been seen and where there were no plants of *Houstonia* growing. After about ten days to two weeks, depending upon the atmospheric conditions, uredosori began to develop on the Sisyrinchiums. Of course, there is a possibility that they may have been infected from spores from some other source, but the transplanting was done as carefully as possible. One can never be certain that his fingers and clothing do not have spores upon them, but future inoculations under control may prove that the *Aecidium* of *Houstonia* and the *Uromyces* of this *Sisyrinchium* are stages of the same rust. Both hosts have been transplanted from the field to the greenhouse, and an attempt will be made to secure the different stages of the rust by inoculation, both on mature plants and seedlings.

The *Uromyces* on the *Sisyrinchium* is evidently very rare, at least in this form. It differs from the description of *Uromyces Sisyrinchii* Mont. in having uredospores, in the shape of the

teleutospores, in that the teleutospores germinate at maturity in the living host, and the epispore of the teleutospores is smooth. Dr. J. C. Arthur, to whom specimens were sent, seems to think that it may be the same as an unpublished species occurring in Maine, and named by Mr. P. L. Ricker.

The rust is so little known that it has been considered worth while to describe it, even though it may be the same as the one named by Ricker, in order that those who are interested in this group of fungi may be on the look-out for it during the spring and summer of 1907. The following description has been prepared from freshly collected material. The color of the sori is much darker on dried specimens of *Sisyrinchium*.

Uredosori. — Spots yellow or none. Sori single or in rows, amphigenous, pulverulent, orange-yellow, surrounded by the ruptured epidermis, elliptical to linear; uredospores orange-yellow, broadly ovate to subspherical, echinulate, 11.5–13 μ × 8–10 μ.

Teleutosori. — Single or in rows, amphigenous, pulvinate, orange, becoming brown, somewhat gelatinous; teleutospores accompanying or following the uredospores, which they resemble in color, elliptical to oblong, apex tapered and thickened, base narrowed, 16–19 μ × 8–9 μ, epispore and pedicel subhyaline; pedicel much longer that the spore, up to 50 μ; teleutospores germinating in the living host.

Occurring on *Sisyrinchium graminoides* Bick. at Morgantown, West Virginia.

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